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=> d his

     (FILE 'HOME' ENTERED AT 18:16:00 ON 25 AUG 2004)

     FILE 'CA, BIOSIS, MEDLINE' ENTERED AT 18:16:16 ON 25 AUG 2004
L1         10978 S XYLANASE?
L2       2225950 S BACTERIA?
L3        295895 S CHICKEN?
L4            32 S L1 AND L2 AND L3
L5            24 DUP REM L4  (8 DUPLICATES REMOVED)

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 NEWS  3  May 12   EXTEND option available in structure searching
 NEWS  4  May 12   Polymer links for the POLYLINK command completed in REGISTRY
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                   SDIs in CAplus
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                   with the 228th ACS National Meeting
 NEWS 11  AUG 02   IFIPAT/IFIUDB/IFICDB reloaded with new search and display
                   fields
 NEWS 12  AUG 02   CAplus and CA patent records enhanced with European and Japan
                   Patent Office Classifications
 NEWS 13  AUG 02   STN User Update to be held August 22 in conjunction with the
                   228th ACS National Meeting
 NEWS 14  AUG 02   The Analysis Edition of STN Express with Discover!
                   (Version 7.01 for Windows) now available
 NEWS 15  AUG 04   Pricing for the Save Answers for SciFinder Wizard within
                   STN Express with Discover! will change September 1, 2004

 NEWS EXPRESS  JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
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FILE 'HOME' ENTERED AT 18:16:00 ON 25 AUG 2004

=> file ca, biosis, medline
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FULL ESTIMATED COST | 0.21 | 0.21

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FILE 'BIOSIS' ENTERED AT 18:16:16 ON 25 AUG 2004

FILE 'MEDLINE' ENTERED AT 18:16:16 ON 25 AUG 2004

=> s xylanase?
L1 10978 XYLANASE?

=> s bacteria?
L2 2225950 BACTERIA?

=> s chicken?
L3 295895 CHICKEN?

=> s l1 and l2 and l3
L4 32 L1 AND L2 AND L3

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5 24 DUP REM L4 (8 DUPLICATES REMOVED)

=> d 1-24 ab,bib

L5 ANSWER 1 OF 24 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 1
AB An experiment was carried out to study the effect of different forms of wheat (airtight silo stored whole wheat, conventionally stored whole wheat, and ground wheat included in pellets) and dietary **xylanase** addition on production results and gastrointestinal characteristics of broiler **chickens**. Real viscosity, pancreatic digestive enzyme activities, and the composition and activity of the intestinal microflora were considered as response parameters. Differences between the 2 types of whole wheat with respect to the various measured parameters were marginal, whereas distinct differences were found between pellet-fed birds and birds receiving whole wheat. Whole wheat feeding improved feed conversion ratio and reduced water consumption (P < 0.001). Compared with pellets, whole wheat increased the relative weight of pancreas and gizzard and the dry matter concentration of gizzard content (P < 0.001). Whole wheat feeding reduced the pH in the gizzard contents (P < 0.01) and increased ileal viscosity. The addition of **xylanase** reduced ileal viscosity in birds receiving whole wheat to the same level as in pellet-fed birds. Whole wheat feeding resulted in lower activities of amylase in pancreatic tissue (P = 0.054), whereas **xylanase** addition increased chymotrypsin (P = 0.030) and lipase activities (P = 0.052). Whole wheat feeding resulted in lower intestinal numbers of lactose-negative enterobacteria (P < 0.05) and tended to reduce the ileal and cecal numbers of Clostridium perfringens (P ltoreq 0.08). It is concluded that whole wheat feeding stimulates gizzard function, which in turn prevents potentially pathogenic **bacteria** from entering the intestinal tract.
AN 2004:325902 BIOSIS
DN PREV200400327528
TI Influence of whole wheat and **xylanase** on broiler performance and microbial composition and activity in the digestive tract.
AU Engberg, R. M. [Reprint Author]; Hedemann, M. S.; Steenfeldt, S.; Jensen,

B. B.
CS Dept Anim Physiol and NutrRes Ctr Foulum, Danish Inst Agr Sci, POB 50, DK-8830, Tjele, Denmark
Ricarda.Engberg@agrsci.dk
SO Poultry Science, (June 2004) Vol. 83, No. 6, pp. 925-938. print.
ISSN: 0032-5791 (ISSN print).
DT Article
LA English
ED Entered STN: 29 Jul 2004
Last Updated on STN: 29 Jul 2004

L5 ANSWER 2 OF 24 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AB Sparse-matrix sampling using commercially available crystallization screen kits has become the most popular way of determining the preliminary crystallization conditions for macromolecules. In this study, the efficiency of three commercial screening kits, Crystal Screen and Crystal Screen 2 (Hampton Research), Wizard Screens I and II (Emerald BioStructures) and Personal Structure Screens 1 and 2 (Molecular Dimensions), has been compared using a set of 19 diverse proteins. 18 proteins yielded crystals using at least one crystallization screen. Surprisingly, Crystal Screens and Personal Structure Screens showed dramatically different results, although most of the crystallization formulations are identical as listed by the manufacturers. Higher molecular weight polyethylene glycols and mixed precipitants were found to be the most effective precipitants in this study.
AN 2003:253643 BIOSIS
DN PREV200300253643
TI Comparison of three commercial sparse-matrix crystallization screens.
AU Wooh, Jong Wei; Kidd, Richard D.; Martin, Jennifer L.; Kobe, Bostjan [Reprint Author]
CS Department of Biochemistry and Molecular Biology, University of Queensland, Brisbane, Queensland, 4072, Australia
b.kobe@mailbox.uq.edu.au
SO Acta Crystallographica Section D Biological Crystallography, (April 2003) Vol. 59, No. 4, pp. 769-772. print.
ISSN: 0907-4449.
DT Article
LA English
ED Entered STN: 28 May 2003
Last Updated on STN: 30 Jun 2003

L5 ANSWER 3 OF 24 CA COPYRIGHT 2004 ACS on STN
AB The effects of 3 exogenous enzyme feed additives Phyzyme 5000G (phytase), Grindazym GP 5000 (endo-1,4-β-glucanase + endo-1,4-β-**xylanase**), and Natuzyme (cellulase + β-glucanase + α-amylase + pectinase) on growth performance of broiler **chickens** fed rice byproducts-based diets were evaluated. Broilers fed enzyme-containing diets grew faster and coverted feed more efficiently than controls. Small intestinal fluid viscosity was not altered by any treatment. Small differences were noted in the total **bacterial** counts in the small intestinal contents in the enzyme-fed **chickens** . Grindazym and combination of Grindazym and Phyzyme improved growth performance and the efficiency of feed utilization of **chickens** fed the rice byproduct diets.
AN 140:93197 CA
TI Effect of exogenous enzymes on performance, gut fluid viscosity and gut microbial counts of broiler chicks fed on diets based on rice by-products
AU Silva, S. S. P.; Palliyaguru, M. W. C. D.; Priyankarage, N.; Weerasinghe, W. M. P. B.; Gunawardana, G. A.
CS Veterinary Research Institute, Peradeniya, Sri Lanka
SO British Poultry Science (2003), 44(Suppl. 1), S19-S20
CODEN: BPOSA4; ISSN: 0007-1668
PB Taylor & Francis Ltd.
DT Journal

LA English
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 24 CA COPYRIGHT 2004 ACS on STN
AB A feed for producing reduced-cholesterol brown eggs from brown-egg-laying fowl is provided. The feed contains organic chromium, a **bacterial** culture for improving digestion, at least one enzyme for improving digestion, and ≥2 weight% fiber. Thus, incorporation of chromium-containing yeast, a probiotic, and enzymes (β-glucanase, **xylanase**, and α-amylase) in the feed of fowl laying brown eggs caused cholesterol content to remain constant as egg size increased. Cholesterol levels of brown eggs were depressed below 160 mg/50 g, thereby meeting the criterion for "reduced cholesterol" eggs.
AN 137:139719 CA
TI Cholesterol depletion in **chicken** eggs by feeding chromium, probiotics, enzymes, and fiber
IN Slaugh, Bartel T.
PA Eggland's Best, Inc., USA
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6436451	B1	20020820	US 2000-535125	20000324
	US 2002197349	A1	20021226	US 2002-191940	20020709
PRAI	US 1999-126352P	P	19990326		
	US 2000-535125	A3	20000324		

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 24 CA COPYRIGHT 2004 ACS on STN DUPLICATE 2
AB Corn- or wheat and barley-based diets were supplemented or not with **xylanase** and β-glucanase (Quatrazyme HP, Nutri-Tomen, France) and fed to broiler **chickens** (n = 12 per group) from 3 to 25 days of age. The unsupplemented wheat and barley-based diet reduced ($P \leq 0.05$) weight gain and feed intake, and increased the feed conversion ratio as compared to the corn-based diet. Viscosity in the supernatant of the small intestine contents was increased ($P \leq 0.05$), whereas pH and osmolality values decreased ($P \leq 0.05$). Crude fat and protein digestibility were reduced as well as the apparent metabolizable energy ($P \leq 0.05$). Moreover, wheat and barley consumption, when compared with the corn-based diet, produced an increase in the microflora of the caeca, with 10.0 vs. 8.9 log CFU·g-1 for facultative anaerobic **bacteria**, 6.5 vs. 5.6 log CFU·g-1 for E. coli and 9.7 vs. 8.3 log CFU·g-1 for Lactobacillus. The addition of **xylanase** and β-glucanase to the wheat and barley-based diet significantly reduced the viscosity of the small intestine contents and improved ($P \leq 0.05$) weight gain, feed intake and feed conversion ratio. The digestibility of the nutrients, the apparent metabolizable energy and the osmolality of the small intestine contents were also increased without alteration in pH values. At the same time, the number of total facultative anaerobic **bacteria** and E. coli decreased significantly ($P \leq 0.05$). In conclusion, the addition of **xylanase** and β-glucanase improves the digestibility of a wheat and barley-based diet, probably by reducing the viscosity of the intestine content and by impeding the growth of **bacteria** (total facultative anaerobic **bacteria**, E. coli).
AN 138:270795 CA
TI Effects of **xylanase** and β-glucanase addition on performance, nutrient digestibility, and physico-chemical conditions in the small intestine contents and caecal microflora of broiler

chickens fed a wheat and barley-based diet
AU Mathlouthi, Nejib; Mallet, Serge; Saulnier, Luc; Quemener, Bernard; Larbier, Michel
CS Station de Recherches Avicoles, INRA, Nouzilly, 37380, Fr.
SO Animal Research (2002), 51(5), 395-406
CODEN: ARNECU; ISSN: 1627-3583
PB EDP Sciences
DT Journal
LA English
RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 24 CA COPYRIGHT 2004 ACS on STN DUPLICATE 3
AB Several studies were carried out to investigate the influence of dietary cereals differing in soluble non starch polysaccharides (NSP) content and a **xylanase** preparation on selected **bacterial** parameters in the small intestine of broiler **chicken**. Compared to a maize diet colony forming units (CFU) of mucosa associated **bacteria** were higher in a wheat/rye diet, most notably for enterobacteria and enterococci. **Xylanase** supplementation to the wheat/rye diet generally led to lower CFU, especially in the first week of life. However, **xylanase** supplementation also displayed higher in vitro growth potentials for enterobacteria and enterococci. **Bacterial** growth of luminal samples in minimal media supplemented with selected NSP showed that the wheat/rye diet enhanced **bacterial** capacities to utilize NSP only in ileal samples. The **xylanase** application generally shifted resp. maximum growth to the proximal part of the small intestine. The presence of soluble NSP from wheat or rye in the diet per se did not enhance **bacterial** NSP hydrolyzing enzyme activities in the small intestine, but **xylanase** supplementation resulted in higher 1,3-1,4-β- glucanase activity. Compared to a maize diet the activity of **bacterial** bile salt hydrolases in samples of the small intestine was not increased due to inclusion of wheat/rye or triticale to the diet. However, **xylanase** supplementation led to a reduction with a corresponding increase of lipase activity. It was concluded that dietary cereals producing high intestinal viscosities lead to increased overall **bacterial** activity in the small intestine. The supplementation of a **xylanase** to cereal based diets producing high intestinal viscosity, changes composition and metabolic potential of **bacterial** populations and may specifically influence fat absorption in young animals.
AN 138:55199 CA
TI **Bacterial** responses to different dietary cereal types and **xylanase** supplementation in the intestine of broiler **chicken**
AU Huebener, Katrin; Vahjen, W.; Simon, O.
CS Institute of Animal Nutrition, Faculty of Veterinary Medicine, Free University of Berlin, Germany
SO Archives of Animal Nutrition (2002), 56(3), 167-187
CODEN: AANUET; ISSN: 0003-942X
PB Taylor & Francis Ltd.
DT Journal
LA English
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 24 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2002:586884 BIOSIS
DN PREV200200586884
TI The addition of an enzymatic complex induces the occurrence of Necrotic Enteritis in broiler chicks fed with a high-wheat-based diet and coccidia challenge.
AU Nava, G. [Reprint author]; Juarez, M. A. [Reprint author]; Ledesma, N. [Reprint author]; Charles, L. M. [Reprint author]; Merino, R. [Reprint

author]; Morales, E. [Reprint author]; Sutton, L.; Silva, M.; Tellez, G. [Reprint author]
CS Departamento de Produccion Animal, Mexico
aves; FMVZ; UNAM; Mexico
SO Poultry Science, (2002) Vol. 81, No. Supplement 1, pp. 135. print.
Meeting Info.: 23rd Annual Meeting of the Southern Poultry Science Society and the 43rd Annual Meeting of the Southern Conference on Avian Diseases. January 14-15, 2002. Southern Poultry Science Society.
CODEN: POSCAL. ISSN: 0032-5791.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 13 Nov 2002
Last Updated on STN: 13 Nov 2002

L5 ANSWER 8 OF 24 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2002:617620 BIOSIS
DN PREV200200617620
TI The influence of endo-**xylanase** and protease mixture on Campylobacter jejuni colonization in broiler chicks.
AU Fernandez, F. [Reprint author]; Hinton, M. H. [Reprint author]; Bedford, M. R.
CS University of Bristol, Bristol, UK
SO Poultry Science, (2002) Vol. 81, No. Supplement 1, pp. 96. print.
Meeting Info.: 91st Annual Meeting of the Poultry Science Association. Newark, DE, USA. August 08-11, 2002. Southern Poultry Science Society.
CODEN: POSCAL. ISSN: 0032-5791.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 4 Dec 2002
Last Updated on STN: 4 Dec 2002

L5 ANSWER 9 OF 24 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2003:458689 BIOSIS
DN PREV200300458689
TI Effect of bird age or period of feeding on effects of exogenous **xylanase** (E.C. 3.2.1.8) and protease (E.C 3.2.24.28) on performance, gut fluid viscosity and crypt cell proliferation rate, in rye-based diets.
AU Silva, S. S. P. [Reprint Author]; Smithard, R. R. [Reprint Author]
CS Department of Biological and Nutritional Sciences, University of Newcastle, Newcastle, NE1 7RU, UK
SO British Poultry Science, (December 2002) Vol. 43, No. 5 and Supplement, pp. S47-S48. print.
Meeting Info.: Spring Meeting of the WPSA (World's Poultry Science Association) UK Branch. York, England. April 09-10, 2002. World's Poultry Science Association.
ISSN: 0007-1668 (ISSN print).
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 8 Oct 2003
Last Updated on STN: 8 Oct 2003

L5 ANSWER 10 OF 24 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AB Plant cell walls are extremely complex structures that predominate in the plant biomass. Non-ruminant animals do not produce enzymes able to degrade structural polysaccharides like xylan and cellulose that are the major constitutes of the plant cell wall. As such, they use cereal-based diets less efficiently than their ruminant counterparts. The addition of cellulases and **xylanases**, produced by micro-organisms capable of degrading plant cell wall, in diets given to non-ruminant animals have been gaining more attention. In this report we characterised the

biochemical properties of **xylanases** V and Y cloned from Clostridium thermocellum and of **xylanases** A and C cloned from Cellvibrio mixtus, in order to evaluate their potential as a supplement of cereal-based diets for simple-stomach animals. Trials were conducted to assess the activity and the enzymatic stability of the different recombinant **xylanases** at different values of pH and temperature. We also assessed the sensitivity/resistance of the enzymes to proteolytic cleavage. The results showed that some enzymes, namely **xylanase** V from C. thermocellum have the appropriated properties of stability and activity one would expect to succeed in animal feeding. We then hyper-expressed the gene codifying the catalytic module of **xylanase** V in Escherichia coli, which was then able to produce high amounts of the required enzyme in a soluble form. The recombinant enzyme was incorporated in a wheat-based diet for broilers. The enzyme keeps its integrity along the bird's gastro-intestinal tract. The importance of these results is discussed in relation to the potential utilisation of recombinant enzymes in the development of more rational and efficient ways to supplement simple-stomach animals.

AN 2001:524281 BIOSIS
DN PREV200100524281
TI Biotechnological potential of **xylanases** from Clostridium thermocellum and Cellvibrio mixtus: Their utilisation as a supplement of wheat based diets for broilers.
Original Title: Avaliacao do potencial biotecnologico de xilanases do Clostridium thermocellum e Cellvibrio mixtus: Sua utilizacao na suplementacao de dietas a base de trigo para frangos de carne.
AU Reis, Tiago A. F. C.; Dias, Fernando M. V.; Fontes, Carlos M. G. A.; Soares, Manuel Chaveiro; Ferreira, Luis M. A. [Reprint author]
CS Faculdade de Medicina Veterinaria, CIISA, Polo Universitario do Alto da Ajuda, Rua Prof. Cid dos Santos, 1300-477, Lisboa, Portugal
luisferreira@fmv.utl.pt
SO Revista Portuguesa de Ciencias Veterinarias, (Jul.-Set., 2001) Vol. 97, No. 539, pp. 125-134. print.
CODEN: RPCVAR. ISSN: 0035-0389.
DT Article
LA Portuguese
ED Entered STN: 14 Nov 2001
Last Updated on STN: 23 Feb 2002

L5 ANSWER 11 OF 24 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AB The objectives of this study were to evaluate the effect of diet on the colonisation by Campylobacter jejuni of the chick caeca, and to determine whether the viscosity of the intestinal contents and mucin carbohydrates were altered by the diet. The diets investigated were maize based, wheat-based or wheat-based supplemented with **xylanase**. The **xylanase**-supplemented diet reduced the viscosity and lowered the numbers of Camp. jejuni. Feeding the enzyme-supplemented diet increased the amount of neutral and sulphated mucins in the goblet cells of the small and large intestines and caecum. An abundance of sulphated and carboxylated mucins was seen in the surface goblet cells of the large intestine with the maize- and wheat-based diets. Both the diet supplemented with **xylanase** and the maize diets increased crypt-surface glycosylation of the sialic acid residues. The analysed data from the combined sites showed significant differences in the amount of neutral and acidic mucins when comparing the wheat and the wheat plus **xylanase** diets. However, no changes were shown in the staining intensity of sulphated mucins between the three diets. Significant differences in the glycosylation of sialic acid and in the N-acetylglucosamine residues were shown between dietary groups. These results provide evidence that the wheat diet supplemented with **xylanase** leads to greater changes in the mucin composition and carbohydrate expression of goblet cell glycococonjugates, which are associated with a reduction in intestinal viscosity and decreased numbers of Camp. jejuni.

AN 2001:72834 BIOSIS
DN PREV200100072834
TI Diet influences the colonisation of Campylobacter jejuni and distribution of mucin carbohydrates in the chick intestinal tract.
AU Fernandez, F. [Reprint author]; Sharma, R.; Hinton, M.; Bedford, M. R.
CS Division of Food Animal Science, Department of Clinical Veterinary Science, University of Bristol, Langford North Somerset, Bristol, BS40 5DU, UK
fresie.fernandez@bristol.ac.uk
SO CMLS Cellular and Molecular Life Sciences, (November, 2000) Vol. 57, No. 12, pp. 1793-1801. print.
ISSN: 1420-682X.
DT Article
LA English
ED Entered STN: 7 Feb 2001
Last Updated on STN: 12 Feb 2002

L5 ANSWER 12 OF 24 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2001:161701 BIOSIS
DN PREV200100161701
TI Effect of recombinant **xylanase** (Neocallimastix patriciarum) and arabinofuranosidase (Pseudomonas fluorescens) on broiler performance.
AU Silva, S. S. P.; Gilbert, H. J. [Reprint author]; Smithard, R. R. [Reprint author]
CS Department of Biological and Nutritional Sciences, University of Newcastle, Newcastle upon Tyne, NE1 7RU, UK
ddvri@slt.lk; ddvri@slt.lk
SO Asian-Australasian Journal of Animal Sciences, (July, 2000) Vol. 13, No. Supplement Vol. A, pp. 105. print.
Meeting Info.: 9th Congress of the Asian-Australasian Association of Animal Production Societies and the 23rd Biennial Conference of the Australian Society of Animal Production. Sydney, New South Wales, Australia. July 03-07, 2000. Asian-Australasian Association of Animal Production Societies; Australian Society of Animal Production.
ISSN: 1011-2367.
DT Conference; (Meeting)
Conference; (Meeting Paper)
LA English
ED Entered STN: 4 Apr 2001
Last Updated on STN: 15 Feb 2002

L5 ANSWER 13 OF 24 CA COPYRIGHT 2004 ACS on STN
AB Provided is the use of a **xylanase** or a cellulase for the manufacture of an agent for the treatment and/or prophylaxis of **bacterial** infection in an animal caused by Salmonella, Campylobacter or Clostridium perfringens. It is preferred that **xylanase** is used in combination with wheat to form an animal feed. Such a diet is particularly effective in controlling Campylobacter and Salmonella in **chickens**. The use provided by the present invention affords an alternative to antibiotics when controlling **bacterial** infection in animals. This leads to considerable health, environmental and economic benefits.
AN 130:152885 CA
TI Use of an enzyme for the manufacture of an agent for controlling **bacterial** infection
IN Bedford, Michael R.; Fernandez, Fresie
PA Finnfeeds International Ltd., UK
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI WO 9903497 A1 19990128 WO 1998-EP4440 19980716
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

GB 2327345	A1	19990127	GB 1997-15214	19970718
GB 2327345	B2	19990623		
AU 9888623	A1	19990210	AU 1998-88623	19980716
AU 733314	B2	20010510		
EP 999851	A1	20000517	EP 1998-940239	19980716
EP 999851	B1	20011212		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 9810603	A	20000711	BR 1998-10603	19980716
JP 2001510167	T2	20010731	JP 2000-502793	19980716
AT 210457	E	20011215	AT 1998-940239	19980716
PT 999851	T	20020531	PT 1998-940239	19980716
ES 2169924	T3	20020716	ES 1998-940239	19980716
MX 200000614	A	20001020	MX 2000-614	20000117
US 2001046494	A1	20011129	US 2000-487383	20000118
PRAI GB 1997-15214	A	19970718		
WO 1998-EP4440	W	19980716		

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 24 CA COPYRIGHT 2004 ACS on STN DUPLICATE 4

AB Two expts. were conducted to examine the effects of different fat types, i.e., soybean oil (S) and beef tallow (T), in rye-based broiler diets, either unsupplemented (-) or supplemented (+) with **xylanase** (Avizyme 1300 at 1 g/kg diet), on selected **bacterial** groups adhering to the epithelium of crop, duodenum, jejunum, and ileum (Experiment 1, 16 d of age), on mean retention time (MRT) of digesta, and on digestibility of N and dry matter in successive segments of the digestive tract (Experiment 2, 24 d of age). Live weight of enzyme-treated and S-fed **chickens** was significantly higher than that for unsupplemented or T-fed birds, resp., in both expts. In Experiment 1, a reduction in **bacterial** colonization from crop to duodenum was followed by a continuous increase as far as the ileum. **Xylanase** supplementation significantly reduced enterobacteria and total anaerobe microbes with a similar trend for Gram-pos. cocci and enterococci. The latter two groups were significantly enhanced in birds fed T. In Experiment 2, **xylanase** supplementation resulted in a decrease in MRT in several segments of the digestive tract. This effect was most pronounced in the small intestine, where MRT of 268, 217, 241, and 209 min in groups S-, S+, T-, and T+, resp., were measured. Apparent digestibility of N and dry matter was slightly improved by **xylanase** supplementation in the jejunum and ileum. Nitrogen digestibility by the terminal ileum was 80.3, 83.7, 79.4, and 82.2% for the S-, S+, T-, and T+ groups, resp., and dry matter digestibility amounted to 61.2, 65.5, 62.1, and 64.0%, resp.

AN 132:151063 CA

TI Effects of dietary fat type and **xylanase** supplementation to rye-based broiler diets on selected **bacterial** groups adhering to the intestinal epithelium, on transit time of feed, and on nutrient digestibility

AU Danicke, S.; Vahjen, W.; Simon, O.; Jeroch, H.

CS Institut fur Tierernahrung und Vorratshaltung, Landwirtschaftliche, Martin-Luther-Universitat Halle-Wittenberg, Halle, 06108, Germany

SO Poultry Science (1999), 78(9), 1292-1299
CODEN: POSCAL; ISSN: 0032-5791

PB Poultry Science Association, Inc.

DT Journal
LA English
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 15 OF 24 CA COPYRIGHT 2004 ACS on STN DUPLICATE 5
AB The colonization of Lactobacillus spp., enterobacteria and facultatively anaerobic gram-pos. cocci was monitored in intestinal samples of growing broiler chicks from 24 h to 28 days of age. Rapid **bacterial** growth occurred within the first week, followed by stabilization and decline of colony forming units (CFU). **Xylanase** supplementation led to significantly lower CFU per g of wet weight for total presumptive enterobacteria and total gram-pos. cocci in luminal and tissue samples in the first 3 wk. Lactobacillus spp. colony counts from tissue samples were higher for animals with the **xylanase**-supplemented diet, but luminal CFU were not. The composition of dominant Lactobacillus spp. strains was different in duodenal and jejunal tissues, but distribution of Lactobacillus spp. colony forms was unaffected by **xylanase** treatment. Mucosa-associated Enterococcus spp. displaced the dominant gram-pos. cocci in the jejunal samples. D- and L-lactic acid and acetic acid concns. were significantly higher in ileal samples from the control group on days 7 and 14, while butyric acid concns. were higher in the **xylanase**-treated group. It is concluded that the less viscous intestinal environment caused by the **xylanase** slowed proliferation of gram-pos. cocci and presumptive enterobacteria in enzyme-supplemented animals in the first 3 wk of life.
AN 129:202355 CA
TI Influence of **xylanase**-supplemented feed on the development of selected **bacterial** groups in the intestinal tract of broiler chicks
AU Vahjen, W.; Glaser, K.; Schafer, K.; Simon, O.
CS Department of Animal Nutrition, Free University of Berlin, Berlin, 14195, Germany
SO Journal of Agricultural Science (1998), 130(4), 489-500
CODEN: JASIAB; ISSN: 0021-8596
PB Cambridge University Press
DT Journal
LA English
RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 16 OF 24 MEDLINE on STN
AB The objective of the study was to determine the effects of two enzyme preparations containing beta-glucanase and **xylanase** activities on barley- and wheat-based diets, respectively, for broilers, in combination with flavomycin. In addition, the stability of the enzyme preparations after pelleting was measured. Temperatures recorded during the pelleting process reached 75 to 80 C, and the activities recovered with respect to the amounts present in the mash feed before pelleting were 80% or higher. Two performance experiments were conducted simultaneously under the same conditions over 6 wk. In addition, intestinal viscosity and incidence of vent pasting were measured and carcasses were eviscerated to determine abdominal fat, carcass yield, and percentage weight of intestines and viscera. Twenty-four pens (12 per sex), each containing 75 **chickens** were used in each experiment. Wheat- or barley-based diets were supplemented with flavomycin and a **xylanase** or a beta-glucanase preparation, respectively, in a 2 x 2 factorial arrangement of treatments. In the wheat diets, **xylanase** and flavomycin improved feed efficiency, in parallel with a reduction of intestinal viscosity. **Xylanase** reduced the incidence of vent pasting and the percentage viscera, especially of intestines, and increased abdominal fat. In the barley diets, beta-glucanase and flavomycin improved feed conversion. beta-Glucanase also reduced intestinal viscosity and vent pasting. Both beta-glucanase and flavomycin reduced percentage

intestines, but the effects were not additive. In general, the effects of the enzyme preparations and flavomycin were independent, except for percentage intestines with beta-glucanase.

AN 1998101219 MEDLINE
DN PubMed ID: 9438289
TI Bioefficacy of enzyme preparations containing beta-glucanase and **xylanase** activities in broiler diets based on barley or wheat, in combination with flavomycin.
AU Esteve-Garcia E; Brufau J; Perez-Vendrell A; Miquel A; Duven K
CS Department of Animal Nutrition, Institut de Recerca i Tecnologia Agroalimentaries (IRTA), Centre de Mas Bove, Reus, Spain.
SO Poultry science, (1997 Dec) 76 (12) 1728-37.
Journal code: 0401150. ISSN: 0032-5791.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199802
ED Entered STN: 19980306
Last Updated on STN: 19980306
Entered Medline: 19980224

L5 ANSWER 17 OF 24 CA COPYRIGHT 2004 ACS on STN DUPLICATE 6
AB The presence of nutrients in the intestinal lumen is a major factor influencing **bacterial** colonization in poultry. The effects of poultry feed was investigated on viscosity of intestinal contents and on mucin carbohydrates by comparing jejunal supernatants and the histochem. composition of goblet cells in chicks reared to 5 wk of age on either a conventional maize-based diet or a wheat-based diet or a wheat diet supplemented with 0.1% **xylanase**. Regional differences in the distribution of the neutral, carboxylated, and sulfated mucins were demonstrated using conventional histochem., while a panel of lectins was used to study alterations in glycoconjugate synthesis of mucins. Feeding a diet supplemented with **xylanase** lowered the viscosity but increased the amount of neutral, carboxylated, and sulfated mucins in the jejunum. In chicks fed a maize-based diet, neutral mucins increased in the surface and upper crypt goblet cells of the small and large intestines but decreased in the cecum. Feeding a diet supplemented with **xylanase** modified crypt-surface glycosylation of N-acetylglucosamine residues and resulted in loss of sialic acid residues in the small and large intestines. These results indicate that the constituents of poultry feed, in particular the consumption of a diet supplemented with **xylanase**, lead to changes in intestinal viscosity and mucin composition which are associated with alterations in the goblet cell glycoconjugates of the chick intestinal tract.
AN 128:47707 CA
TI The influence of diet on the mucin carbohydrates in the chick intestinal tract
AU Sharma, R.; Fernandez, F.; Hinton, M.; Schumacher, U.
CS University Southampton, Southampton, SO16 7PX, UK
SO Cellular and Molecular Life Sciences (1997), 53(11/12), 935-942
CODEN: CMLSFI; ISSN: 1420-682X
PB Birkhaeuser Verlag
DT Journal
LA English

L5 ANSWER 18 OF 24 CA COPYRIGHT 2004 ACS on STN
AB The aim of the study was to test the effects of a **xylanase** and zinc bacitracin on the composition of the microflora in the alimentary tract of broiler **chickens** fed wheat-based diets. It has been shown that both the single supplementation and the simultaneous application of the feed additives reduced the microorganisms especially of the small intestine. In the first place a decrease of undesirable microorganisms like Str.

faecalis, Str. faecium and E. coli was observed Cl. perfringens appeared not to play a significant role in the present trial conditions and the following state of health.

AN 128:216786 CA

TI Effects of dietary zinc bacitracin and an enzyme preparation on the microbial colonization of the small intestine and the ceca of broiler **chickens**

AU Hock, E.; Halle, Ingrid; Jeroch, H.; Matthes, S.

CS Institut Kleintierforschung Celle/Merbitz, Institutsteil Merbitz, Nauendorf, 06193, Germany

SO Vitamine und Zusatzstoffe in der Ernaehrung von Mensch und Tier, Symposium, 6th, Jena, Sept. 24-25, 1997 (1997), 353-358. Editor(s): Schubert, Rainer. Publisher: Friedrich-Schiller-Universitaet Jena, Biologisch-Pharmazeutische Fakultaet, Institut fuer Ernaehrung und Umwelt, Jena, Germany.
CODEN: 65SGAF

DT Conference

LA German

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 19 OF 24 CA COPYRIGHT 2004 ACS on STN

AB A **xylanase** preparation and Zn bacitracin as feed supplements improved weight gain and decreased feed conversion in broiler chicks. **Xylanase** or Zn bacitracin or both depressed enterococci, coli-aerogenic **bacteria**, and lactobacilli in the small intestine and the cecum. Zn bacitracin depressed clostridii and anaerobic cocci in the cecum.

AN 127:161133 CA

TI Investigations on the composition of the ileal and cecal microflora of broiler chicks in response to dietary enzyme preparation and zinc bacitracin in wheat-based diets

AU Hock, E.; Halle, Ingrid; Matthes, S.; Jeroch, H.

CS Inst. Kleintierforschung Celle/Merbitz, Nauendorf/Saalkreis, D-06193, Germany

SO Agribiological Research (1997), 50(1), 85-95
CODEN: AGRREE; ISSN: 0938-0337

PB Sauerlaender

DT Journal

LA English

L5 ANSWER 20 OF 24 CA COPYRIGHT 2004 ACS on STN

AB This invention relates to a method for the treatment or prophylaxis of adverse behavior, diarrhea, a skin disorder or an infection of the hind gut resulting from the accumulation of acid in the gastrointestinal tract of a human or an animal, said accumulation resulting from the fermentation of carbohydrate in the gastrointestinal tract of said human or animal, which method comprises administering to said human or animal an effective amount of an agent capable of preventing or controlling fermentative acidosis in the gastrointestinal tract.

AN 125:185914 CA

TI Prevention of adverse behavior, diarrhea, skin disorders and infections of the hind gut associated with acidic conditions in humans and animals

IN Rowe, James Baber

PA Australia

SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9620709	A1	19960711	WO 1995-AU884	19951229

W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE,

ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

	CA 2208986	AA	19960711	CA 1995-2208986	19951229
	AU 9643245	A1	19960724	AU 1996-43245	19951229
	AU 698600	B2	19981105		
	EP 800394	A1	19971015	EP 1995-942004	19951229
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV				
	NZ 297961	A	20000526	NZ 1995-297961	19951229
	US 5985891	A	19991116	US 1997-860562	19970829
PRAI	AU 1994-338	A	19941229		
	WO 1995-AU884	W	19951229		

L5 ANSWER 21 OF 24 CA COPYRIGHT 2004 ACS on STN

AB An enzyme feed additive is provided comprising a **xylanase**, a protease, and optionally a β-glucanase. The ratio of the units of **xylanase** activity per unit amount of the feed additive to the units of β-glucanase activity per same unit amount of the feed additive is 1:0-0.25. Preferably, the **xylanase** is the low pI **xylanase** and/or the high pI **xylanase** obtained from Trichoderma longibrachiatum. Preferably, the protease is a mutant subtilisin comprising a substitution at the amino acid residue position equivalent to tyr+217 of Bacillus amyloliquefaciens subtilisin with leucine.

AN 125:9473 CA

TI An enzyme feed additive and animal feed including it

IN Bedford, Michael Richard; Morgan, Andrew John; Clarkson, Kathleen; Schulze, Hagen Klaus

PA Finnfeeds International Limited, UK; Genencor International Inc.

SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9605739	A1	19960229	WO 1995-EP3277	19950817
	W: AU, CA, CN, FI, JP, NO, NZ				
	US 5612055	A	19970318	US 1995-515610	19950816
	CA 2196760	AA	19960229	CA 1995-2196760	19950817
	AU 9533944	A1	19960314	AU 1995-33944	19950817
	AU 692596	B2	19980611		
	EP 704167	A1	19960403	EP 1995-112939	19950817
	R: AT, BE, CH, DE, DK, ES, FR, GB, IE, IT, LI, NL, PT, SE				
	CN 1159145	A	19970910	CN 1995-194648	19950817
	JP 10504716	T2	19980512	JP 1995-507779	19950817
	FI 9700676	A	19970218	FI 1997-676	19970218
	NO 9700745	A	19970218	NO 1997-745	19970218
PRAI	GB 1994-16841	A	19940819		
	WO 1995-EP3277	W	19950817		

L5 ANSWER 22 OF 24 MEDLINE on STN

AB The experiment was designed to test possible interactions of an enzyme complex (product from Trichoderma viride) and a feed antibiotic (flavophospholipol) in a barley diet on metabolism variables and egg production performance of Warren Brown laying hens. The basal diet contained 40% winter barley (French cultivar "Express", six row). The four treatments were as follows: O, control (without supplement); E, enzyme complex, 600 ppm; A, flavophospholipol, 10 ppm; EA, enzyme complex, 600 ppm and flavophospholipol, 10 ppm. The enzyme complex contained the following main activities: cellulase (10,500 U/g), endo-beta-(1:3)(1:4)-

glucanase (24,000 U/g), and **xylanase** (32,000 U/g). The enzyme positively influenced AME content of the feed, organic matter (OM) utilization, and neutral detergent fiber (NDF) degradability (P < or = 0.01). When supplemented alone, the antibiotic had no influence on energy and nutrient utilization. No significant differences in egg production due to dietary treatments were observed. A significant enzyme by antibiotic interaction for AME (P < or = 0.01) and OM utilization (P < or = 0.001) as well as NDF degradability (P < or = 0.01) indicated a reduced enzyme effect in the diet containing antibiotic. Negative enzyme by antibiotic interaction for energy utilization in laying hens suggested that the positive response to dietary enzyme supplementation in the mature laying hen (Treatment O vs E) was to great extent mediated by the activity of intestinal microbes.

AN 96272513 MEDLINE
DN PubMed ID: 8786948
TI Influence of Trichoderma viride enzyme complex on nutrient utilization and performance of laying hens in diets with and without antibiotic supplementation.
AU Vukic Vranjes M; Wenk C
CS Federal Institute of Technology, Institute of Animal Science, Zurich, Switzerland.
SO Poultry science, (1996 Apr) 75 (4) 551-5.
Journal code: 0401150. ISSN: 0032-5791.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199609
ED Entered STN: 19961008
Last Updated on STN: 19961008
Entered Medline: 19960926

L5 ANSWER 23 OF 24 CA COPYRIGHT 2004 ACS on STN
AB Feed digestibility was improved and intestinal **bacteria** decreased in **chickens** given Zn bacitracin (50) or **xylanase** (300 ppm), and especially when feed contained both of these additives. Feed efficiency was improved by both **xylanase** and bacitracin.
AN 126:170874 CA
TI Effect of **xylanase** and zinc-bacitracin on digestive physiologic processes in growing broilers
AU Hock, E.; Halle, Ingrid; Jeroch, H.; Matthes, S.
CS Dipl. Agr. Ing. Eberhard Hock, Institut Kleintierforschung Celle/Merbitz, Nauendorf/Saalkreis, 06193, Germany
SO VDLUFA-Schriftenreihe (1996), 44(Kongressband 1996, Trier, Sekundaerrohstoffe im Stoffkreislauf der Landwirtschaft), 143-146
CODEN: VDSCEE; ISSN: 0173-8712
PB VDLUFA-Verlag
DT Journal
LA German

L5 ANSWER 24 OF 24 CA COPYRIGHT 2004 ACS on STN
AB The present invention provides the use of a **xylanase** for assisting livestock to digest protein and/or amino acids present in a feed. Such a use increases the protein and amino acid digestibility of the livestock's diet. Alternatively, such a use enables the actual protein content of a feed to be reduced by including lower levels of relatively costly protein supplements such as fishmeal and meatmeal. The use also enables the content of energy supplements present in the feed to be reduced from the amts. conventionally used without reducing the feed's nutritional value. Preferably the feed comprises a cereal and the animal is a **chicken**.
AN 124:85627 CA
TI Use of an enzyme for assisting an animal to digest protein

IN Bedford, Michael Richard; Morgan, Andrew John
PA Finnfeeds International Ltd., UK
SO Brit. UK Pat. Appl., 34 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2287867	A1	19951004	GB 1995-6173	19950327
	AU 9516147	A1	19951012	AU 1995-16147	19950329
	AU 683720	B2	19971120		
	CA 2145961	AA	19951001	CA 1995-2145961	19950330
PRAI	GB 1994-6317		19940330		